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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092,988	03/08/2002	Yong Che	220306US0	8535

22850 7590 10/28/2003

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EXAMINER	
YUAN, DAH WEI D	

ART UNIT	PAPER NUMBER
1745	

DATE MAILED: 10/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

eb 8

Office Action Summary	Application No.	Applicant(s)	
	10/092,988	CHE, YONG	
	Examiner	Art Unit	
	Dah-Wei D. Yuan	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-18 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-18 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5,6 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

SECONDARY POWER SOURCE

Examiner: Yuan S.N. 10/092,988 Art Unit: 1745 October 22, 2003

Specification

1. The disclosure is objected to because of the following informalities: The brief description of Figure 4 is missing. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3,5-7,11-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Amatucci (US 6,517,972).

With respect to claims 1,2,7,13, Amatucci teaches rechargeable hybrid battery/supercapacitor electrical storage system comprising a positive electrode, a negative electrode and an electrolyte. The positive electrode further comprises activated carbon whereas the negative electrode comprises $Li_4Ti_5O_{12}$ and conductive carbon powder, which is capable of doping and undoping lithium ions. The electrolyte is selected from the group comprising $LiPF_6$, $LiClO_4$ and $LiBF_4$. See Abstract, Column 3, Lines 61 to Column 4, Line 42; Examples 3 and 4.

With respect to claims 3,5,6,11,12, Amatucci et al. do not specifically disclose the lattice spacing of the negative electrode, the relative electric capacity of the negative electrode and positive electrode, and the specific surface area of the negative electrode. However, it is the position of the examiner that such properties are inherent, given that both Amatucci and the present application utilize the same electrode active materials for the rechargeable electrical storage system. A reference which is silent about a claimed invention's features is inherently anticipatory if the missing feature *is necessarily present in that which is described in the reference.* In re Robertson, 49 USPQ2d 1949 (1999).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 8-10,14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over al. Amatucci (US 6,517,972) as applied to claims 1-3,5-7,11-13 above, and further in view of Tsushima et al. (JP 2000-228222).

Amatucci discloses a rechargeable electrical storage system as described above in Paragraph 3. However, Amatucci does not disclose the organic electrolyte containing quaternary onium salt in addition to the lithium salt. Tsushima et al. teach a secondary power source

comprising activated carbon as the positive electrode active material. A mixture of lithium salt of 0.5-2.5 mols/L and quaternary onium salt of 0.5-2.0 mols/L is used as the electrolyte. The molar ratio of the quaternary onium ions to the lithium ions in the electrolyte is from 0.25 to 4. The quaternary onium salt contains at least one quaternary onium ion selected from the group consisting of $(C_2H_5)_4P^+$, $(C_2H_5)_4N^+$ and $(C_2H_5)_3(CH_3)N^+$ and at least one counter anion selected from the group comprising PF_6^-, BF_4^- and ClO_4^-. Tsushima et al. further disclose the use of quaternary onium salt in the electrolyte can improve charge/discharge property of the energy storage device. See Paragraphs 8,9,13,14; Abstract. Therefore, it would have been obvious to one of ordinary skill in the art to use an organic electrolyte containing a quaternary onium salt and lithium salt in the electrical storage system of Amatucci, because Tsushima et al. teach the use of the electrolyte mixture to improve the electrochemical performance of the resulting energy source.

6. Claims 4,17,18 are rejected under 35 U.S.C. 103(a) as being unpatentable over al. Amatucci (US 6,517,972) as applied to claims 1-3,5-7,11-13 above.

With respect to claim 4, The disclosure of Amatucci differs from Applicant's claims in that Amatucci does not disclose the relative portion of $Li_4Ti_5O_{12}$ and conductive carbon powder in the negative electrode. However, it is well know in the art that the conductivity and electrochemical potential of the electrode can be modified by varying the relative amounts of individual compounds. Therefore, it would have been within the skill of the ordinary artisan to adjust the amount of the carbon material in the negative electrode depending on the power

requirement of the energy storage system. *Discovery of optimum value of result effective variable in known process is ordinarily within skill of art.* In re Boesch, CCPA 1980, 617 F.2d 272, 205 USPQ215.

With respect to claims 17,18, Amatucci et al. do not specifically disclose the relative electric capacity of the negative electrode and positive electrode, and the specific surface area of the negative electrode. However, it is the position of the examiner that such properties are inherent, given that both Amatucci and the present application utilize the same electrode active materials for the rechargeable electrical storage system. A reference which is silent about a claimed invention's features is inherently anticipatory if the missing feature *is necessarily present in that which is described in the reference.* In re Robertson, 49 USPQ2d 1949 (1999).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dah-Wei D. Yuan whose telephone number is (703) 308-0766. The examiner can normally be reached on Monday-Friday (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (703) 308-2383. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Dah-Wei D. Yuan
October 22, 2003